

reported by Thompson and Sagle (1969); and added distribution records for 14 species in the 3 southernmost counties of the Eastern Shore. These collections in the Pocomoke River swamps in 1968 and 1969 also extended the seasonal distributions of 10 species as recorded in Thompson (1967). Table 1 summarizes these records and those from collections not previously recorded.

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TWO NEW SPECIES OF PHAENICIA FROM THE WEST INDIES

(DIPTERA: CALLIPHORIDAE)¹

MAURICE T. JAMES, *Department of Entomology, Washington State University, Pullman, Washington 99163*

ABSTRACT—Two new species, *Phaenicia retroversa*, from Bahama (type locality) and Cuba, and *P. lucigerens*, from Jamaica, are described. Their close relationship to *P. caeruleiviridis* (Macquart) suggests a common origin of the three.

Examination of some *Phaenicia* from the West Indies has revealed the presence of two new species that appear to be closely related to the common *P. caeruleiviridis* (Macquart) of the eastern United States. Both resemble *caeruleiviridis* in several features including the very narrow frons of the male, the general configuration of the head, the chaetotaxy except for the lack of fronto-orbitals in the male, and the structure of the aedeagus. The forceps complex in the male genitalia is different, particularly in respect to the geniculate outer forceps, a

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character which distinguishes this pair of species from the other known American representatives of this genus. Presumably, these species represent an extension of the ancestral *caeruleiviridis* stock into the Caribbean area, where differentiation has taken place.

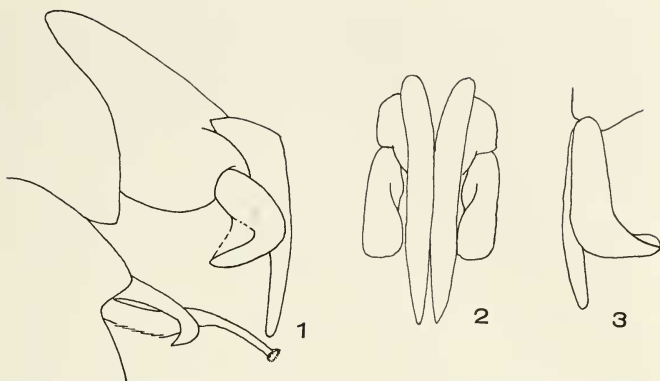
A character that has been overlooked in American species of *Phaenicia* is the nature of the abdominal pollinosity. In such species as *P. sericata* (Meigen) the abdomen is wholly shining green to coppery, but the shine is not as brilliant as in *P. caeruleiviridis*, *P. eximia* (Wiedemann), and most other species of the native American fauna. When the abdominal terga of *P. sericata* are examined under magnification of 60× or greater, with proper lighting, a large part of the surface appears covered with a whitish pollen. Even on the fourth tergum, where the white pollinosity is not evident, the surface is dulled somewhat by a metallic green pollen consisting of minute scales. In contrast, the fourth tergum in *P. caeruleiviridis* is very glossy and lacks evidence of metallic pollen. This glossy condition may occur on a portion or nearly all of the third tergum, at least dorsally.

In this paper the apparent, rather than the actual morphological, segmentation of the abdomen is used; the abdomen, therefore, will be considered to be composed of four principal segments.

The most comprehensive treatment of the North American species of *Phaenicia* is to be found in Hall (1948). No species have been added to the known fauna of North or Central America and of the West Indies since that date.

***Phaenicia retroversa*, n. sp.**

Distinguishable from other known American species, except *lucigerens*, n. sp., by the geniculate outer forceps of the male genitalia. The completely brilliantly shining third and fourth abdominal terga are characteristic. The body is usually distinctly bicolored, with a bluish-green thorax and a distinctly purplish abdomen. Bigot described two species from the West Indies with such coloration, namely *Somyia semiviolacea* from Puerto Rico and *S. soulouquina*, from Haiti. Both were based on female types which, according to Aldrich, are in such bad condition that the possibility of an accurate identification is doubtful (see discussion in Hall, 1948). Some *P. caeruleiviridis* specimens from Florida show this bicolored condition. Aubertin (1933) thought that *semiviolacea* and *soulouquina* might be synonyms of *P. rica* (Shannon), but I doubt this. Bigot's descriptions disagree with my series of *retroversa* in several respects, particularly in the statement that the second abdominal segment lacks macrochaetae, so it is best to regard the Bigot names as *nomina dubia*.



FIGS. 1-3. *Phaenicia* spp., male genitalia: 1, *retroversa*, n. sp., lateral view; 2, same, forceps, dorsal view; 3, *lucigerens*, n. sp., forceps, lateral view.

Male.—Head mostly blackish; facials becoming brownish-black to brownish-yellow, especially below, facial warp yellow to yellowish; pollen whitish to very pale yellow, yellow on facial warp, rather dense on parafrontals except upper parts, parafacials, facials, and occipital orbits, less so on occiput than on orbits and on genae. Minimum distance between eyes 0.03 head width, or little more than diameter of anterior ocellus; frontale at narrowest virtually obliterated, reddish brown below, black above. Frontals 8-12, becoming increasingly weaker above, extending to narrowest part of frons; fronto-orbitals and outer verticals lacking; inner verticals strong. Parafrontals with some short, soft, whitish hairs on lower part between frontal rows and eyes; hairs of gena seta-like, black; occiput with some longer yellowish hairs, especially noticeable below but occurring wholly behind metacephalic suture. Setulae of facials extending almost half-way to antennal bases. Antenna mainly black; pedicel orange at apex, otherwise brownish-black; flagellum orange at base and orange-yellow for a variable distance below; thicker part of arista brownish-black. Sclerotized parts of proboscis shining black, palpi bright yellow.

Thorax green to bluish-green, rarely blue, sometimes with a cupreous sheen on dorsocentral areas; pleura, particularly mesopleuron, usually with more of a bluish sheen; bristles and most setulae of thorax black, hairs of propleuron and anterior margin of humerus whitish-yellow, those near stigmatal bristle brown. Anterior margin of mesonotum, anterior part of humerus, propleuron, and mesopleuron above front coxa densely whitish pollinose; pollen of thorax otherwise inconspicuous but visible over most of area when viewed from an oblique angle. Acrostichals 2-2, dorsocentrals 3-3, humerals 3. Legs brownish-black, femora usually darker, almost black, tibiae usually brownish. Wing subhyaline, very lightly infumated; veins yellow to brownish-yellow; basicosta except on inner margin and subcostal sclerite yellow, epaulet brown; squamae lightly tinged with brown, becoming white at base; halteres yellow; anterior spiracle yellowish-brown, posterior dark brown.

Abdomen brilliantly purple; all setae and bristles black; terga 2 and 3 dorsally each with a marginal row of bristles, strong and long on 3, becoming weaker medially on 2. Terga 3 and 4 devoid of pollen, only a little metallic pollen at extreme base of 3 laterally; terga 1 and 2, except extreme apex of 2, with pollen which appears whitish when viewed posteriorly. Genitalia as in figs. 1 and 2; outer forceps geniculate, that is, curved ventrally at middle, appearing much shorter in dorsal view than inner forceps; aedeagus essentially as in *caeruleiviridis*.

Length, 6.5–7.5 mm, of holotype, 7.5 mm.

Female.—Frons at narrowest point about one-fourth (0.23–0.25) head width; sides almost parallel, only slightly concave on lower part; 2 proclinate and 1 reclinate fronto-orbitals, both outer and inner verticals well developed; frontals extending to vertex. Pollen on ventral aspects of terga 1 and 2 more conspicuous than in male. Length, 7.5–8.5 mm, of allotype, 8.5 mm.

Holotype male, Grande Is., Bahama, June, 1952, A. Soltys; USNM type no. 71202. Allotype, female, same data. Paratypes: 1 female, 5 males, same data; 2 females, 2 males, New Providence, Bahama, May, 1952, G. W. Eddy; 1 male, 1 female, Habana, Prov. Habana, Cuba, March 15, 1966, F. Gregor; 1 male, Lomas de Camos, Prov. Habana, Cuba, fly trap, March 14, 1952, Dodge and Seago; 1 female, Marianao, Prov. Habana, Cuba, 15 m, July 20 to August 8, 1966, F. Gregor. Paratypes in the collections of the U. S. National Museum, Washington State University, and the Moravian Museum, Brno, Czechoslovakia.

Discussion.—The name *retroversa*, meaning “turned backwards,” refers to the form of the outer forceps.

The contrast in color between thorax and abdomen is normally marked. In the pair of paratypes from Habana (city) there is some purple on the abdomen, but to the naked eye the contrast is not evident. Other characters, including the male genitalia, indicate the conspecificity of these specimens with others of the type series. In one New Providence male the outer forceps have become extended so that they do not bend, but their basal structure clearly indicates that the difference in appearance is due to this extension.

***Phaenicia lucigerens*, n. sp.**

Most probably of the same ancestral stock as *P. retroversa*, to which it is apparently most closely related. Head and appendages in structure, chaetotaxy, and vestiture as in *retroversa*, except that pollen tends to be more yellowish; in the male it is more distinctly yellow on the parafacials and usually deep yellow to golden on the occipital orbits; in the female it is characteristically deep yellow, usually less so on the parafrontals and sometimes also on the parafacials. Thorax and most of abdomen dark blue, almost blue-black in places; chaetotaxy and vestiture as in *retroversa*. Femora black, tibiae dark brown. Wing clear hyaline, without the slight brownish tinge of *retroversa*; some infumated spots at base; basicosta brownish-yellow to light brown; subcostal sclerite usually brownish on apical half; squamae variable, pale brownish to distinctly brown, white at base. Tergum 3 largely devoid of pollen, more brilliantly shining than preceding segment, but bearing

some metallic pollen at least at base and sometimes half way to apex, especially laterally, this pollen more extensive than in *retroversa*; tergum 4 wholly shining, brilliantly coppery or green with a strong coppery reflection in the male, often less pronounced in the female, sometimes almost wholly absent; in both sexes, however, there is a strong color contrast between terga 3 and 4. Male genitalia (fig. 3) similar to those of *retroversa*; structure of aedeagus essentially the same; outer forceps geniculate but the bend closer to the apex, in structure more foliate and not as heavy as in *retroversa*. Length, male, 6.0–7.5 mm, 7.0 in holotype; female, 6.0–8.0 mm, 7.5 in allotype.

The type series is entirely from Jamaica.

Holotype, male, NE slope Mt. Horeb, Portland, about 4600 ft., November 21, 1954, T. H. Farr; USNM type no. 71203. Allotype, female, Albany Green, St. Thomas, June 10, 1954, Farr. Paratypes: 1 male, same data as holotype; 2 males, 1 female, Long Mountain, St. Andrew, October 7, 1964, Farr; 1 male, about 6 miles NW of Wheeler Field, St. Thomas, August 24, 1954, Farr; 2 males, Morant Bay Road, St. Thomas, 14½ miles E of Kingston, August 2 and September 6, 1964, Farr; 1 female, Morant Point, sea level, St. Thomas, February 13, 1955, Farr; 1 male, 2 females, 2 miles N of Maypen, Clarendon, September 23, 1962, and September 27, 1964, Farr; 1 female, Second Breakfast Spring, St. Andrew, August 24, 1954, Farr; 1 male, Orangefield, St. Catharine, March 10, 1955, S. Heineman; 1 female, Hardewar Gap to Caledonia Peak, Portland, October 30, 1955, David Gregory; 1 female, Green Hill, Portland, July 26, 1950, I. Sibley; 1 female, Upper Mountain View, St. Andrew, October 31, 1954, C. B. Lewis; 2 males, Hope, Kingston, March 28 and April 11, 1960, Latta trap. Paratypes in the collections of the U. S. National Museum and Washington State University.

Discussion.—The name *lucigerens*, "light-bearer," refers to the appearance of the fourth tergum of the males and some females; when the fly is viewed posteriorly, without magnification, a brilliant flash of coppery light can be produced by rotating the specimen.

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